

SWBAT: relate voltage and current to charge

Jan 4-7:20 AM

# Welcome!!!

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SECA Physics  
Tuesday 23 February 2016

\* Pick up:

- slip of paper (for later)
- yellow sheet
- whiteboard, marker, eraser

Opening Questions:

What do you think "electric current" means?

FLOW OF ELECTRONS

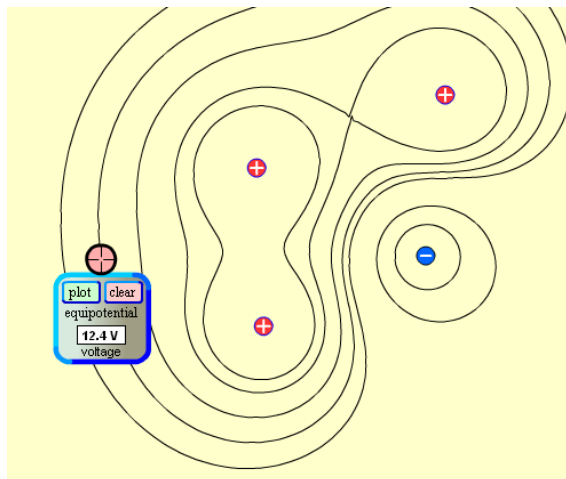
Centering

Sep 7-7:04 AM

Big Idea from last unit:

Voltage:

is the **potential** based on **position** in an electric field.



Feb 18-6:47 AM

## What uses electric current?

In groups, think of as many things as you can that

- are in this room &
- use current (the flow of electrons)

Feb 18-6:50 AM

Concept sheet: 6 rows total

An electron is  $1.6 \times 10^{-19} \text{ C} = .0000000000000000016 \text{ C}$ 

Concept	Meaning	Symbol	Units	Analogy
CHARGE	PROPERTY OF PROTONS AND ELECTRONS THAT CAUSES ATTRACTION & REPULSION	$q$	COULOMBS $C$	
VOLTAGE = ELECTRIC POTENTIAL	THE POTENTIAL BASED ON POSITION IN AN ELECTRIC FIELD	$V$	VOLTS $V$	
CURRENT	THE FLOW OF ELECTRIC CHARGE $= \frac{\text{CHARGE}}{\text{TIME}}$	$I$	AMPERE $A = \frac{C}{s}$	

$$\triangle \frac{q}{I \cdot t}$$

Feb 23-7:34 AM

## Practice!

$$\text{current} = \frac{\text{CHARGE}}{\text{TIME}}$$

If I have  $6 \text{ C}$  of charge going by in  $2 \text{ s}$ , how much current is that?

$$I = \frac{q}{t} = \frac{6 \text{ C}}{2 \text{ s}} = 3 \text{ A}$$

If we have  $8 \text{ A}$  of current for  $4 \text{ sec}$ , how much charge is that?

$$q = I \cdot t = 8 \text{ A} \cdot 4 \text{ s} = 32 \text{ C}$$

$$\triangle \frac{q}{I \cdot t}$$

How long did it take to have  $5 \text{ C}$  of charge flow if the current is  $10 \text{ A}$ ?

$$t = \frac{q}{I} = \frac{5 \text{ C}}{10 \text{ A}} = .5 \text{ s.}$$

Feb 18-6:54 AM

### Daily 3 Questions

- \* Every day except test/project days
- \* 3 Questions on the topics of the day
- \* Main source of daily points
- \* I am happy to give credit when I have no concerns about someone giving or getting help with the answers.

You can't get your points if you don't have your **NAME!!!**

Name	Period
1.	
2.	
3.	

Sep 9-7:32 AM

1. What is the physics term for "flow of electrons"?

CURRENT

2. What are the **units** for current?

A AMPERES

3. What is one thing in the room that uses current?

LAPTOPS, CLOCK, BRAINS

Feb 18-6:59 AM